75. The method according to claim 74, wherein generating the reference voltage comprises using a band-gap reference.

76. The method according to claim 75, wherein calibrating the low-noise voltage is performed at power up.

CONCLUSION

A check in the amount of $1158.00 is enclosed for excess claims. Should any additional fees under 37 CFR 1.16-1.21 be required for any reason relating to the enclosed materials, the Commissioner is authorized to deduct such fees from Deposit Account No. 10-1205/SILA:095. The examiner is invited to contact the undersigned at the phone number indicated below with any questions or comments, or to otherwise facilitate expeditious and compact prosecution of the application.

Respectfully submitted,

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APPENDIX

MARKED UP VERSION OF AMENDMENTS AS REQUIRED BY RULE 121

In The Specification:

Please replace the paragraph beginning on page 2, line 27 and ending on page 2, line 17 with the following:

--Furthermore, this patent application incorporates by reference the following patent documents: U.S. Patent Application Serial No. [____________] 10/075,122, Attorney Docket No. SILA:078, titled "Digital Architecture for Radio-Frequency Apparatus and Associated Methods"; U.S. Patent Application Serial No. [____________] 10/075,099, Attorney Docket No. SILA:097, titled "Notch Filter for DC Offset Reduction in Radio-Frequency Apparatus and Associated Methods"; U.S. Patent Application Serial No. [____________] 10/074,676, Attorney Docket No. SILA:098, titled "DC Offset Reduction in Radio-Frequency Apparatus and Associated Methods"; U.S. Patent Application Serial No. [____________] 10/075,094, Attorney Docket No. SILA:074, titled "Radio-Frequency Communication Apparatus and Associated Methods"; U.S. Patent Application Serial No. [____________] 10/075,098, Attorney Docket No. SILA:075, titled "Apparatus and Methods for Generating Radio Frequencies in Communication Circuitry"; U.S. Patent Application Serial No. [____________] 10/074,591, Attorney Docket No. SILA:096, titled "Apparatus for Generating Multiple Radio Frequencies in Communication Circuitry and Associated Methods"; U.S. Patent Application Serial No. [____________] 10/079,058, Attorney

Docket No. SILA:099, titled "Apparatus and Methods for Output Buffer Circuitry with Constant Output Power in Radio-Frequency Circuitry"; U.S. Patent Application Serial No. [____________] 10/081,730, Attorney Docket No. SILA:106, titled "Method and Apparatus for Synthesizing High-Frequency Signals for Wireless Communications"; U.S. Patent Application Serial No. [____________] 10/079,057, Attorney Docket No. SILA:107, titled "Apparatus and Method for Front-End Circuitry in Radio-Frequency Apparatus"; and Provisional U.S. Patent Application Serial No. 60/337,225, Attorney Docket No. SILA:095PZ1, filed on December 4, 2001.--

In The Claims:

Please amend claims 1 and 2.

1.(Amended) A low-noise current reference circuitry, comprising:

a reference voltage source configured to generate a reference voltage;

a current source configured to provide a low-noise output current in response to a plurality of control signals; and

a controller configured to provide the plurality of control signals based at least in part on the relative magnitudes of the reference voltage and a voltage derived from the output current.

2.(Amended) A low-noise voltage reference circuitry, comprising:

a reference voltage source configured to generate a reference voltage;

a voltage source configured to provide a low-noise output voltage in response to a plurality of control signals; and

a controller configured to provide the plurality of control signals based at least in part on the relative magnitudes of the output voltage and the reference voltage.

Please cancel claim 3.

[3.(Canceled) A radio-frequency (RF) apparatus, comprising:

a first circuit partition, comprising receiver analog circuitry configured to produce a digital receive signal from an analog radio-frequency signal; and

a second circuit partition, comprising receiver digital circuitry configured to accept the digital receive signal, wherein the first and second circuit partitions are partitioned so that interference effects between the first circuit partition and the second circuit partition tend to be reduced.]

Please add new claims 4-76.

a3

--4. (New) The low-noise current reference circuitry according to claim 1, wherein the reference voltage source comprises a low-drift voltage source.

5. (New) The low-noise current reference circuitry according to claim 4, wherein the reference voltage comprises a higher noise content than the low-noise output current.

6. (New) The low-noise current reference circuitry according to claim 5, wherein the low-noise output current is calibrated.

7. (New) The low-noise current reference circuitry according to claim 6, wherein the low-noise output current is calibrated by calibrating the plurality of control signals.

a/3 cont

8. (New) The low-noise current reference circuitry according to claim 7, wherein the signals in the plurality of control signals are configured to be held constant after calibrating the plurality of control signals.

9. (New) The low-noise current reference circuitry according to claim 8, wherein the current source comprises an adjustable resistor.

10. (New) The low-noise current reference circuitry according to claim 9, wherein the adjustable resistor comprises a plurality of switchable resistors.

11. (New) The low-noise current reference circuitry according to claim 10, wherein the plurality of switchable resistors are switched in response to the plurality of control signals.

12. (New) The low-noise current reference circuitry according to claim 11, wherein the controller uses successive approximation to generate the plurality of control signals.

13. (New) The low-noise current reference circuitry according to claim 12, wherein the reference voltage source comprises a band-gap reference.

a3 cont

14. (New) The low-noise current reference circuitry according to claim 13, wherein the low-noise output current is calibrated at power up.

15. (New) The low-noise voltage reference circuitry according to claim 2, wherein the reference voltage source comprises a low-drift voltage source.

16. (New) The low-noise voltage reference circuitry according to claim 15, wherein the reference voltage comprises a higher noise content than the low-noise output voltage.

17. (New) The low-noise voltage reference circuitry according to claim 16, wherein the voltage source provides the low-noise output voltage in response to the plurality of control signals and a reference current signal.

18. (New) The low-noise voltage reference circuitry according to claim 17, wherein the low-noise output voltage is calibrated.

a3 cont

19. (New) The low-noise voltage reference circuitry according to claim 18, wherein the low-noise output voltage is calibrated by calibrating the plurality of control signals.

20. (New) The low-noise voltage reference circuitry according to claim 19, wherein the signals in the plurality of control signals are configured to be held constant after calibrating the plurality of control signals.

21. (New) The low-noise voltage reference circuitry according to claim 20, wherein the voltage source comprises an adjustable resistor.

22. (New) The low-noise voltage reference circuitry according to claim 21, wherein the adjustable resistor comprises a plurality of switchable resistors.

23. (New) The low-noise voltage reference circuitry according to claim 22, wherein the plurality of switchable resistors are switched in response to the plurality of control signals.

24. (New) The low-noise voltage reference circuitry according to claim 23, wherein the controller uses successive approximation to generate the plurality of control signals.

A3 cont

25. (New) The low-noise voltage reference circuitry according to claim 24, wherein the reference voltage source comprises a band-gap reference.

26. (New) The low-noise voltage reference circuitry according to claim 25, wherein the low-noise output voltage is calibrated at power up.

27. (New) A radio-frequency (RF) apparatus, comprising:

a first integrated circuit, including:

a reference current generator configured to generate a reference output current, the reference current generator comprising:

a reference voltage source configured to provide a reference voltage;

a controllable current source configured to provide the reference output current in response to a first plurality of signals; and

a first controller configured to provide the first plurality of signals,

the first plurality of signals being derived from the reference voltage and the reference output current,

wherein a noise content of the reference output current is lower than a noise content of the reference voltage.

28. (New) The radio-frequency apparatus according to claim 27, wherein the reference voltage source comprises a low-drift reference voltage source.

a3 cont

29. (New) The radio-frequency apparatus according to claim 28, wherein the reference output current is calibrated by calibrating the first plurality of signals.

30. (New) The radio-frequency apparatus according to claim 29, wherein the signals in the first plurality of signals are configured to be held constant after calibrating the first plurality of signals.

31. (New) The radio-frequency apparatus according to claim 30, wherein the controllable current source comprises a first adjustable resistor.

32. (New) The radio-frequency apparatus according to claim 31, wherein the first adjustable resistor comprises a first plurality of switchable resistors configured to adjust a resistance of the first adjustable resistor in response to the first plurality of signals.

33. (New) The radio-frequency apparatus according to claim 32, wherein the first controller uses successive approximation to generate the first plurality of signals.

A3 cont

34. (New) The radio-frequency apparatus according to claim 33, wherein the reference voltage source comprises a band-gap reference.

35. (New) The radio-frequency apparatus according to claim 34, wherein the first integrated circuit further comprises radio-frequency receiver circuitry.

36. (New) The radio-frequency apparatus according to claim 35, further comprising a second integrated circuit coupled to the first integrated circuit, the second integrated circuit comprising digital signal processing circuitry, the digital signal processing circuitry further configured to accept a digital output of the radio-frequency receiver circuitry.

37. (New) The radio-frequency apparatus according to claim 36, wherein the reference current generator supplies the reference output current to the radio-frequency receiver circuitry.

38. (New) The radio-frequency apparatus according to claim 37, wherein the radio-frequency receiver circuitry and the reference current generator are powered up before a reception of a burst by the radio-frequency receiver circuitry.

a3 cont

39. (New) The radio-frequency apparatus according to claim 38, wherein the reference output current is calibrated at power up.

40. (New) The radio-frequency apparatus according to claim 28, wherein the first integrated circuit further comprises:

a reference voltage generator configured to generate a reference output voltage, the reference voltage generator comprising:

a controllable voltage source configured to provide the reference output voltage in response to a second plurality of signals; and

a second controller configured to provide the second plurality of signals, the second plurality of signals being derived from the reference voltage and the reference output voltage,

wherein a noise content of the reference output voltage is lower than a noise content of the reference voltage.

41. (New) The radio-frequency apparatus according to claim 40, wherein the reference output voltage is calibrated by calibrating the second plurality of signals.

42. (New) The radio-frequency apparatus according to claim 41, wherein the signals in the second plurality of signals are configured to be held constant after calibrating the second plurality of signals.

a3 cont

43. (New) The radio-frequency apparatus according to claim 42, wherein the controllable voltage source comprises a second adjustable resistor.

44. (New) The radio-frequency apparatus according to claim 43, wherein the second adjustable resistor comprises a second plurality of switchable resistors configured to adjust a resistance of the second adjustable resistor in response to the second plurality of signals.

45. (New) The radio-frequency apparatus according to claim 44, wherein the second controller uses successive approximation to generate the second plurality of signals.

46. (New) The radio-frequency apparatus according to claim 45, wherein the controllable voltage source is further configured to provide the reference output voltage in response to a signal derived from the reference output current.

47. (New) The radio-frequency apparatus according to claim 46, wherein the first integrated circuit further comprises radio-frequency receiver circuitry.

a3 Cont

48. (New) The radio-frequency apparatus according to claim 47, further comprising a second integrated circuit coupled to the first integrated circuit, the second integrated circuit comprising digital signal processing circuitry configured to accept a digital output of the radio-frequency receiver circuitry.

49. (New) The radio-frequency apparatus according to claim 48, wherein the reference voltage generator supplies the reference output voltage to the radio-frequency receiver circuitry.

50. (New) The radio-frequency apparatus according to claim 49, wherein the radio-frequency receiver circuitry and the reference voltage generator are powered up before a reception of a burst by the radio-frequency receiver circuitry.

51. (New) The radio-frequency apparatus according to claim 50, wherein the reference output voltage is calibrated at power up.

52. (New) A method of providing a low-noise current, comprising:

generating a reference voltage;

generating the low-noise current in response to a plurality of control signals; and

deriving the plurality of control signals at least in part based on the relative magnitudes of the reference voltage and a voltage derived from the low-noise current.

a3 cont

53. (New) The method according to claim 52, wherein generating the reference voltage comprises generating a low-drift reference voltage.

54. (New) The method according to claim 53, wherein generating the low-noise current comprises generating a low-noise current that has a lower noise content than the reference voltage.

55. (New) The method according to claim 54, further comprising calibrating the low-noise current.

56. (New) The method according to claim 55, further comprising calibrating the low-noise current by calibrating the plurality of control signals.

57. (New) The method according to claim 56, further comprising holding constant the signals in the plurality of control signals after calibrating the plurality of control signals.

58.(New) The method according to claim 57, wherein generating the low-noise current further comprises adjusting a resistance.

a3 Cont

59. (New) The method according to claim 58, wherein adjusting the resistance further comprises switching a plurality of switchable resistors.

60. (New) The method according to claim 59, further comprising switching the plurality of switchable resistors in response to the plurality of control signals.

61. (New) The method according to claim 60, wherein deriving the plurality of control signals comprises using successive approximation.

62. (New) The method according to claim 61, wherein generating the reference voltage comprises using a band-gap reference.

63. (New) The method according to claim 62, wherein calibrating the low-noise current is performed at power up.

64. (New) A method of providing a low-noise voltage, comprising:

generating a reference voltage;

generating the low-noise voltage in response to a plurality of control signals; and

deriving the plurality of control signals at least in part based on the relative magnitudes of the reference voltage and the low-noise voltage.

a3 cont

65. (New) The method according to claim 64, wherein generating the reference voltage comprises generating a low-drift voltage.

66. (New) The method according to claim 65, wherein generating the low-noise voltage comprises generating a low-noise voltage that has a lower noise content than the reference voltage.

67. (New) The method according to claim 66, wherein generating the low-noise voltage comprises generating the low-noise voltage in response to the plurality of control signals and a reference current signal.

68. (New) The method according to claim 67, further comprising calibrating the low-noise voltage.

69. (New) The method according to claim 68, further comprising calibrating the low-noise voltage by calibrating the plurality of control signals.

70. (New) The method according to claim 69, further comprising holding constant the signals in the plurality of control signals after calibrating the plurality of control signals.

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cont

71. (New) The method according to claim 70, wherein generating the low-noise voltage further comprises adjusting a resistance.

72. (New) The method according to claim 71, wherein adjusting the resistance further comprises switching a plurality of switchable resistors.

73. (New) The method according to claim 72, further comprising switching the plurality of switchable resistors in response to the plurality of control signals.

74. (New) The method according to claim 73, wherein deriving the plurality of control signals comprises using successive approximation.

75. (New) The method according to claim 74, wherein generating the reference voltage comprises using a band-gap reference.

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76. (New) The method according to claim 75, wherein calibrating the low-noise voltage is performed at power up.--